

1050 Chevak Bulk Fuel Upgrades (AVEC Tank Farm) Project
Closeout Summary Report
February 25, 2011

This Closeout Summary Report is filed with the federal grantor agency the Denali Commission (“Denali” or “DC”) by the grantee partner Alaska Village Electric Cooperative, Inc. (“AVEC”). The federal grant award covered by this report and by this project is 01050-00 (“1050”).

This project is being closed because the project is complete and is in full operation. This report represents the project status as of December 31, 2010. All storage capacities are stated in terms of gross capacity. Federal funds in the amount of \$ 478,037 are available for de-obligation from award 1050.

Background - The village of Chevak is located on the Ninglikfak River, approximately 17 miles east and upriver of Hooper Bay. The village was settled on a permanent basis in the early 1950’s when “Old Chevak”, closer to the coast, was abandoned due to flooding. The community incorporated in 1967 under state law as a second class city. The region being somewhat close to the sea has a maritime climate with continental influences when the Bering Sea and Ninglikfak River freeze. The current population has grown from 230 in 1950 to 922 in 2008. There are 167 occupied houses in the village as well as various school, community and other buildings.

Activities - AVEC developed a strategic plan to complete four major community infrastructure projects in Chevak relatively concurrently, in order to optimally utilize heavy construction equipment (which had to be barged in) and manpower. Other than this project 1050, the three other projects were the Chevak Bulk Fuel Upgrades – Community Tank Farm (Denali project 1051), Chevak Wind Generation (Denali project 29E), and the new Chevak Power Plant (begun under Denali project 29B, completed under Denali project 1171). The two tank farms were designed, and had their gravel foundation pads prepared, under Denali project 29A. The two tank farm projects and the power plant were constructed essentially simultaneously on three adjacent sites. The wind generation project was also constructed during this time, but at a site not contiguous with the other projects.

This project, informally known as the AVEC bulk fuel tank farm, is located south of town on the west side of Trinity Street. The tank farm consists of six 50,000 gallon vertical single-wall tanks plus one 10,000 gallon horizontal single wall tank. All tanks sit in a raised steel secondary containment area, and on a foundation consisting of steel pilings driven through the gravel foundation pad. This tank farm supplies fuel to the new power plant (project 29B).

The design engineer was Hattenburg Dilley and Linell LLC. Construction was managed by STG, Inc., using a managed construction approach. Final construction documents were issued in May, 2009, and site clearing and preparation started soon thereafter. Construction was completed in late summer 2010. The substantial completion inspection was conducted in September 2010.

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Funding, Costs and Cost Containment - Funding was provided by Denali Commission grants to AVEC, and matching cash contributions from AVEC. Funding and costs are as follows:

	Federal portion of award	AVEC match portion	Total Funding (Budget)	Total Actual Costs
DC award 01050-00	\$ 3,178,483	\$ 353,165	\$ 3,531,648	
Total Actual Costs	\$ 2,700,446	\$ 300,050		\$ 3,000,496

Total funding of \$3,531,648 exceeds total actual costs of \$3,000,496 by \$531,152. 90% of this amount, or \$478,037, is the federal portion and is available for de-obligation on award 01050-00 on this project.

Design Shell Capacity: 310,000 gallons
Constructed Shell Capacity: 310,000 gallons

Constructed cost per gallon \$ 9.68 per gallon
Denali Commission benchmark cost \$ 20.71 per gallon

The constructed cost per gallon of storage capacity is \$11.03 (about 53%) less than the Denali Commission cost containment benchmark cost per gallon for a tank farm of this size in this location.

Project Outcomes - The project as constructed provides code-compliant bulk fuel storage that supplies the fuel to generate nearly all of the electric power consumed in the community. The new facilities replace 192,565 gallons of substandard fuel storage.

Problems Encountered/Lessons Learned – Constructing several major infrastructure facilities in one community over an approximately three-year timeframe yielded substantial efficiencies in the use of heavy construction equipment, labor, freight, and design resources. No major problems were encountered during the execution of this project. The measurable success of all of these projects was greatly due in part to the cooperation of the City of Chevak, Chevak Traditional Council, and members of the community. The contractor performed exceptionally well and the end product is of high quality.